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Commissioner for Patents**REMARKS/ARGUMENTS**

No new matter has been added with the amendment.

Claims 1-9 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over US patent No. 4,934,583 to Patsfall in view of Applicant's Admitted Prior Art (AAPA).

As stated in MPEP section 706.02(j), to establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art and not based on applicant's disclosure. *In re Vaack*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991).

Patsfall teaches a method to put a blade (20) on a hub (22). The method can be used to replace a damaged blade or for initial manufacturing. But Patsfall is silent about the shaft. He does not teach how the shaft is provided on the impeller to rotate the latter. Nor does he suggest any motivation for providing the claimed invention.

As discussed in the application, the prior art offers various ways in which a shaft may be attached to an impeller. Patsfall teaches friction welding of blades to a hub. The AAPA teaches a metal alloy of IMI834. These are simply three pieces of unconnected information which the Examiner wishes to use with impermissible hindsight to reconstruct the invention. The Examiner has not shown any of the required elements enumerated above in order to make a valid case for *prima facie* obviousness. As mentioned above, Patsfall is silent about the shaft of the impeller. He

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does not teach how the shaft is provided on the impeller. The shaft and the blades are different members which are submitted to different constraints. Therefore, even if Patsfall succeeded in friction welding a blade on a stub, it is not obvious to one of ordinary skill in the art that (a) the teachings of Patsfall are applicable to shafts; (b) that there is any benefit in applying Patsfall to shafts; or (c) that there is even a need to apply Patsfall to anything but airfoils. There are a number of deficiencies with the Examiner's rejection.

Therefore, there is no suggestion or motivation to combine the teaching of Patsfall and the AAPA.

Consequently, claim 1 is inventive and the rejection under 103(a) is traversed. Claims 2-7 which depend on claim 1 are also inventive.

The Applicants respectfully disagree with the Office Communication stating that Patsfall teaches *heat treating the welded assembly to at least relieve a weld zone (col. 4, ll. 60-69)*. Column 4, ll. 60-69 are reproduced below and it is not mentioned to heat treat the weld assembly:

*"The fully bonded structure or article preform, in one form of the method of the present invention, is shown in the fragmentary sectional view of FIG. 8 wherein bond lines, for example from diffusion bonding, are shown in phantom at 70A, 70B and 70C. As will be recognized, excess material in addition to that required to reconstruct the member shown in FIG. 1 generally is bonded into the structure. Therefore, finishing of the repaired article includes removing such excess material, such as by machining, grinding, benching, electrolytic or electrodischarge material removal, etc."*

Therefore, at least one criterion to establish a *prima facie* case of obviousness is not met. The prior art references (Patsfall and the AAPA) does not teach all the limitations of claim 8. Consequently, claim 8 is inventive and claim 9, which depends on claim 8, is also inventive.

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In view of the foregoing, reconsideration of the rejection of claims 1-17 is respectfully requested. It is believed that claims 1-17 are allowable over the prior art, and a Notice of Allowance is earnestly solicited. In the event that there are any questions concerning this amendment or the application in general, the Examiner is respectfully urged to telephone the undersigned so that prosecution of this application may be expedited.

Respectfully submitted,

Isabelle BACON et al

By: 

Agent of the Applicant

T. James Reid, Reg. No. 56,498

Customer Number 020988

OGILVY RENAULT LLP

1981 McGill College, Suite 1600

Montreal, Quebec, Canada H3A 2Y3

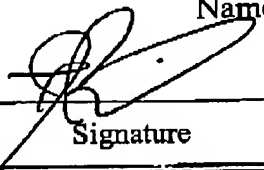
Tel.: (514) 847-4311

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